

What is claimed is:

1. A valve for a pressurized container, the valve comprising:
  - a valve housing having a central bore;
  - a port in said housing to facilitate connection of a nozzle thereto;
  - a t-stem having a lower end with a key-way, the lower end further having in conjunction with the key-way a cavity of a predetermined shape; and
  - a valve seat providing the primary valve seal when the valve is closed,wherein the valve seat has an upper portion and a lower portion, the lower portion being structured and arranged to provide the primary valve seal in cooperation with the valve housing, the upper portion having a geometry for engaging with the t-stem to provide a locked assembly;
  - the t-stem and valve seat being located in the housing and cooperating to position the valve seat for the primary valve seal.
2. The valve of claim 1, wherein the t-stem has an internal bore extending lengthwise therein, the internal bore having upper portion with a first diameter and a lower portion with a second diameter, the first diameter being larger than the second diameter thereby forming an internal edge within the bore for cooperating with the valve seat to lock the valve seat in the t-stem when positioned within the valve housing.
3. A valve for a pressurized container, the valve comprising:
  - a unidirectional stepped valve housing, wherein said housing comprises a central bore that includes an upper portion, lower portion and a middle portion located therebetween, wherein said lower portion is narrower than said middle portion which in turn is narrower than said upper portion;
  - a port in the middle portion of said housing to facilitate connection of a nozzle thereto;
  - a t-stem having a lower end with a key-way, the lower end further having in conjunction with the key-way a cavity of a predetermined shape; and
  - a valve seat providing the primary valve seal when the valve is closed,wherein the valve seat has an upper portion and a lower portion, the lower portion being structured and arranged to provide the primary valve seal in cooperation with

the valve housing, the upper portion having a geometry for engaging with the t-stem to provide a locked assembly;

the t-stem and valve seat being located in the housing and cooperating to position the valve seat for the primary valve seal.

4. The valve of claim 3, further comprising a blocking element in the lower portion of said central bore.

5. The valve of claim 4, wherein the blocking element is structured and arranged to be free standing in the lower portion of the central bore, to be irreversibly moved to a final location in the valve wherein the valve permits escape of a fluid under pressure exerted from the inside of the container, but wherein the blocking element automatically closes the valve in response to an external pressure greater than the pressure inside the container.

6. The valve of claim 4, wherein the blocking element comprises a reversible check that integrally includes a stop means for preventing the return of the blocking element to a free standing position in the lower portion of the central bore after the check has been moved into a final location after filling of the container.

7. The valve of claim 3, further comprising an o-ring to provide a secondary seal between the valve seat and the valve housing when the valve is in an open position.

8. The valve of claim 7, wherein there is a first frictional force exerted by the o-ring between the valve seat and the valve housing, the first frictional force limiting rotation of the valve seat in the valve body when the valve is closed or opened.

9. The valve of claim 7, wherein there is a first frictional force exerted by the o-ring between the valve seat and the valve housing, the first frictional force

preventing rotation of the valve seat in the valve body when the valve is closed or opened without back pressure on the valve seat.

10. The valve of claim 3, wherein the t-stem has an internal bore extending lengthwise therein, the internal bore having upper portion with a first diameter and a lower portion with a second diameter, the first diameter being larger than the second diameter thereby forming an internal edge within the bore for engaging with the valve seat to lock the valve seat in the t-stem when positioned within the valve housing.

11. A container with a valve preventing refilling, the valve comprising:  
a valve housing having a central bore;  
a blocking element in the housing to prevent refilling of the container;  
a port in said housing to facilitate connection of a nozzle thereto;  
a t-stem having a lower end with a key-way, the lower end further having in conjunction with the key-way a cavity of a predetermined shape; and  
a valve seat providing the primary valve seal when the valve is closed,  
wherein the valve seat has an upper portion and a lower portion, the lower portion being structured and arranged to provide the primary valve seal in cooperation with the valve housing, the upper portion having a geometry for engaging with the t-stem to provide a locked assembly;  
the t-stem and valve seat being located in the housing and cooperating to position the valve seat for the primary valve seal.

12. A container with a valve preventing refilling, the valve comprising:  
a unidirectional stepped valve housing, wherein said housing comprises a central bore that includes an upper portion, lower portion and a middle portion located therebetween, wherein said lower portion is narrower than said middle portion which in turn is narrower than said upper portion;  
a blocking element in the lower portion of said central bore;  
a port in the middle portion of said housing to facilitate connection of a nozzle thereto;  
a t-stem having a lower end with a key-way, the lower end further having in

conjunction with the key-way a cavity of a predetermined shape; and

a valve seat providing the primary valve seal when the valve is closed, wherein the valve seat has an upper portion and a lower portion, the lower portion being structured and arranged to provide the primary valve seal in cooperation with the valve housing, the upper portion having a geometry for cooperating with the t-stem to provide a locked assembly;

the t-stem and valve seat being located in the housing and cooperating to position the valve seat for the primary valve seal.

13. The container of claim 12, wherein the valve further comprises an o-ring to provide a secondary seal between the valve seat and the valve housing when the valve is in an open position.

14. The container of claim 13, wherein there is a first frictional force exerted by the o-ring between the valve seat and the valve housing, the first frictional force limiting rotation of the valve seat in the valve body when the valve is closed or opened.

15. The container of claim 13, wherein there is a first frictional force exerted by the o-ring between the valve seat and the valve housing, the first frictional force preventing rotation of the valve seat in the valve body when the valve is closed or opened without back pressure from the container on the valve seat.

16. The container of claim 12, wherein the t-stem has an internal bore extending lengthwise therein, the internal bore having upper portion with a first diameter and a lower portion with a second diameter, the first diameter being larger than the second diameter thereby forming an internal edge within the bore for engaging with the valve seat to lock the valve seat in the t-stem when positioned within the valve housing.

17. The container of claim 12, wherein the blocking element is structured and arranged to be free standing in the lower portion of the central bore, to be irreversibly moved to a final location in the valve wherein the valve permits escape

of a fluid under pressure exerted from the inside of the container, but wherein the blocking element automatically closes the valve in response to an external pressure greater than the pressure inside the container.

18. The container of claim 12, wherein the blocking element comprises a reversible check that integrally includes a stop means for preventing the return of the blocking element to a free standing position in the lower portion of the central bore after the check has been moved into a final location after filling of the container.

19. A method for filling a non-refillable container with a pressurized fluid, the method comprising:

providing the container with a valve comprising:

a valve housing having a central bore;

a blocking element in the housing to prevent refilling of the container;

a port in said housing to facilitate connection of a nozzle thereto;

a t-stem having a lower end with a key-way, the lower end further having in conjunction with the key-way a cavity of a predetermined shape; and

a valve seat providing the primary valve seal when the valve is closed, wherein the valve seat has an upper portion and a lower portion, the lower portion being structured and arranged to provide the primary valve seal in cooperation with the valve housing, the upper portion having a geometry for engaging with the t-stem to provide a locked assembly;

the t-stem and valve seat being located in the housing and cooperating to position the valve seat for the primary valve seal;

filling the container with the fluid;

closing the valve by moving the valve seat to form the primary seal, thereby causing the blocking element to move into a second position whereby, when the valve is opened, fluid can flow out of the container under pressure however, when

pressure outside the container is greater, the blocking element prevents flow into the container, thereby providing a non-refillable container.

20. A method for filling a non-refillable container with a pressurized fluid, the method comprising:

providing the container with a valve comprising:

a unidirectional stepped valve housing, wherein said housing comprises a central bore that includes an upper portion, lower portion and a middle portion located therebetween, wherein said lower portion is narrower than said middle portion which in turn is narrower than said upper portion;

a blocking element in a first position in the lower portion of said central bore;

a port in the middle portion of said housing to facilitate connection of a nozzle thereto;

a t-stem having a lower end with a key-way, the lower end further having in conjunction with the key-way a cavity of a predetermined shape; and

a valve seat providing the primary valve seal when the valve is closed, wherein the valve seat has an upper portion and a lower portion, the lower portion being structured and arranged to provide the primary valve seal in cooperation with the valve housing, the upper portion having a geometry for engaging with the t-stem to provide a locked assembly;

the t-stem and valve seat being located in the housing and cooperating to position the valve seat for the primary valve seal;

filling the container with the fluid;

closing the valve by moving the valve seat to form the primary seal, thereby causing the blocking element to move into a second position whereby, when the valve is opened, fluid can flow out of the container under pressure however, when pressure outside the container is greater, the blocking element prevents flow into the container, thereby providing a non-refillable container.